



Alumni: Sarah Nurre, University of Arkansas

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Sarah Nurre moving to the University of Arkansas

Even though Sarah Nurre only spent two months at the Lab, in what is now Defense Systems and Analysis, she says it was a great experience, where she got to work with intelligent people and her efforts during that time helped shape her current career path.

One of the projects she worked on: how to optimize electric-car, battery-swap stations.

Imagine you're traveling across country and you need more gas to get where you're going. With gas stations dotting the landscape, more energy is close at hand.

Now imagine you're making that same trip in a battery-only powered car. When your energy source gets low, the last thing you want to do have to stop and wait for your battery to recharge so you can continue on your way. The solution? Have places where you can swap out your spent battery for a fully charged one.

During her time in Los Alamos, with Labbie Russell Bent and former employee Feng Pan, Nurre worked on optimizing the management of such stations.

"The swap stations need to recharge depleted batteries to make them available for the next car," said Nurre. "To meet the greatest demand and keep costs as low as possible, the stations need to determine the best time to recharge the depleted batteries on hand."

This work not only included when to recharge batteries but also when the stations should discharge full batteries back to the electrical grid so the regional power company could achieve load-balancing initiatives.

In addition, she also worked on other complex optimizations such as what areas would be most important to restore after extreme events such as floods or tornados.

More recently, she's transitioning from working for the Air Force Institute of Technology to the University of Arkansas where she'll be an assistant professor of Industrial Engineering.

One reason for the switch is the chance to work with a wider range of students.

"I'm looking forward to collaborating with colleagues, graduate students, and undergraduate students on transportation research projects while at the University of Arkansas that are an extension of the work I conducted at Los Alamos.

To learn more about Nurre, visit her [webpage](#) or [LinkedIn](#) page.

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